California MEDICINE

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EDITORIAL

Sulfonamide-Resistant Meningococci

EVER SINCE the early observations regarding the effectiveness of sulfonamides in the treatment and prophylaxis of meningococcus infections, these drugs have been regarded as the first and unfailing recourse in this disease. Some authorities have recommended the use, additionally, of penicillin, in case some strains might be resistant to sulfonamides —usually with the comment that resistant strains had escaped detection.

Recently Millar et al (J.A.M.A. 186:139, Oct. 12, 1963) reported the isolation of strains of meningococci which were resistant to sulfonamides and did not respond adequately to treatment with these drugs. Failures have been noted, especially in mass prophylaxis, with diminished effect in the reduction of carriers. Thus far, these results have not been encountered commonly in civilian populations but have occurred in military personnel, among whom chemoprophylaxis has been employed extensively.

Conceivably the use of mass prophylaxis may have been the very mechanism by which the emergence of resistant strains has been induced.

A disturbing possibility is that this information may lead clinicians to abandon the use of sulfadiazine and sulfasoxizole (Gantrisin®) completely and to rely on the use of penicillin alone in the treatment of these highly fatal and fulminant infections. Some strains of meningococci are resistant to penicillin. In a number of instances, some of which are a matter of my personal knowledge, the employment of the usual dosage of procaine penicillin in the treatment of unexplained fever has been followed in two or three days by progressive meningococcus disease, sometimes with petechiae and other evidences of meningococcemia.

The course of meningococcus disease does not usually provide, on the basis of sensitivity tests, the opportunity to determine the most appropriate drug for treatment. The diagnosis can be established often on immediate evidences which are as definitive as the results of bacteriological culture (petechial rash, profound toxemia, direct smears from petechial puncture or from the spinal fluid). The choice of an antimicrobial agent, thus, must be a matter of clinical empiricism, the agents most likely to be successful being promptly employed.

These infections constitute medical emergencies. Death or serious damage may result in a very few hours. There is no reason to debate the single best antibacterial agent; it is preferable to select a combination of drugs which can be given promptly with some assurance of success. Treatment usually should be by the intravenous route and, providing that reasonably generous amounts of intravenous fluid are given along with the therapeutic agent, medication is devoid of risks which are disproportionate to the mounting danger of the disease.

In the light of present knowledge, it would seem appropriate not to abandon sulfonamide therapy but to combine this with the use of penicillin. The use of procaine penicillin in doses of 300,000 to 600,000 units is inadequate: Along with adequate intravenous dosage of sodium sulfadiazine or sulfasoxizole (5 to 6 gm over a 24-hour period for adults), aqueous penicillin G in dosage of 20 million units in 24 hours should be given by continuous drip. Similar dosage should be continued for the next week, and then be gradually reduced in the ensuing few days.

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